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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,583	07/29/2003	Kristopher J. Frutschy	042390P16902	1628

7590 10/26/2005

Stephen M. De Klerk  
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP  
Seventh Floor  
12400 Wilshire Boulevard  
Los Angeles, CA 90025-1026

EXAMINER

LE, THANH TAM T

ART UNIT	PAPER NUMBER
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2839

DATE MAILED: 10/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/630,583	<b>Applicant(s)</b> FRUTSCHY, KRISTOPHER J.	
	<b>Examiner</b> Thanh-Tam T. Le	<b>Art Unit</b> 2839	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,8,10,14,18 and 19 is/are rejected.
- 7) ☒ Claim(s) 4-7, 9, 11-13, 15-17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 1 and 3-19 are objected to because of the following informalities:

Claim 1, lines 11-12, and claim 10, lines 16-17, "the respective interconnection element" and "the respective protrusion" lack an antecedent basis.

Claim 4, line 2, "the base" lacks an antecedent basis.

Claim 5, lines 3 and 4, "a protrusion" should be changed -- the protrusion --; line 5, "the protrusions" lacks an antecedent basis.

Claim 6, line 3, claim 13, line 3 and claim 17, line 3, "a respective opening" should be changed -- the respective opening --;

Claim 9, "a plurality of solder balls on the interconnection element" is confusing, how is more than one solder ball on one interconnection element?

Claim 12, line 4, line 6, "the protrusions" lacks an antecedent basis.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, 8, 10, 14 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Arisaka (5,102,352).

Regarding claims 1 and 10, Arisaka, figures 2-3 and a figure A (noted by an Examiner), discloses a socket for a microelectronic component, comprising:

- a socket body (10) having a formation for receiving the microelectronic component and including at least a first metal portion (14);
- a plurality of contacts (top side of socket pins 20-23) on the socket body;
- a plurality of terminals (20b) on the socket body;
- a plurality of interconnection elements (see a figure A below) in the socket body, each interconnecting a respective contact with a respective terminal; and
- a protrusion (the figure A below) on each interconnection element, a respective interconnection element and a respective protrusion being inserted into an opening in the socket body until the protrusion is in contact with the first metal portion, at least a first set of the interconnection elements all being electrically connected through the respective protrusions thereon to the first metal portion.

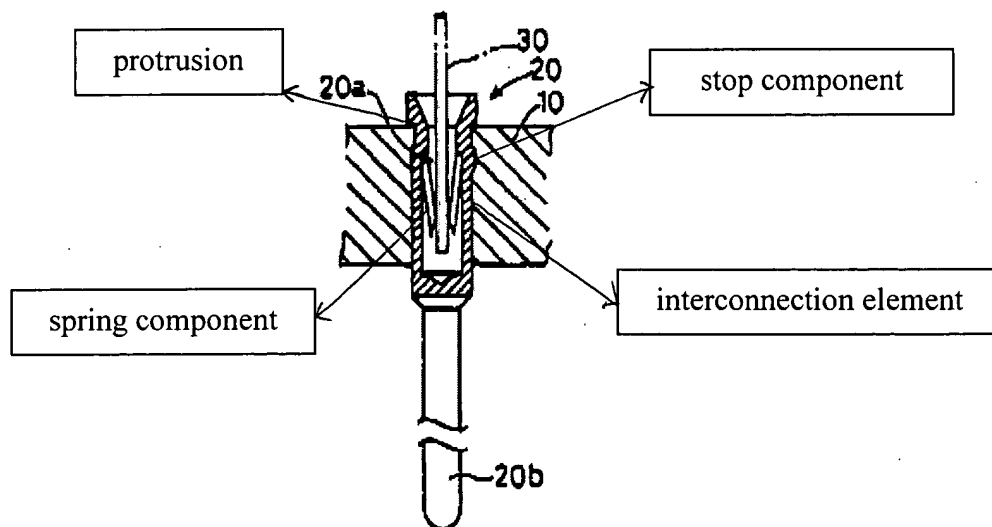
Regarding claim 3, a stop component (the figure A below) on the interconnection element to limit how far the interconnection element is inserted into the opening and to ensure that the protrusion is in line with the metal portion.

Regarding claim 8, a plurality of spring components (the figure A below) on the interconnection element, each contact being on a respective spring component.

Regarding claim 14 and 18, a socket comprising:

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- a socket body (10) having a horizontal base with upper and lower substantially horizontal sides and including a metal power portion (15) and a metal ground portion (14), and side walls extending upwardly from the base, the side walls having inner surfaces jointly defining a recessed formation for receiving the microelectronic component;
- a plurality of conductive contacts;
- a plurality of terminals;
- a plurality of interconnection elements including a power set (23), all being electrically connected to the power portion, a ground set (21) all being electrically connected to the ground portion, and a signal set (22), each being electrical disconnected from both the power portion and the ground portion.

**FIGURE A**

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arisaka (5,102,352) in view of Noda et al. (6,827,586).

Arisaka discloses the instant claimed invention as described above except for a solder ball on the interconnection element.

Noda et al., figure 1, disclose a receptacle connector assembly (1) having a solder ball (22). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Arisaka to have the solder ball, as taught by Noda et al., for better connection.

***Allowable Subject Matter***

6. Claims 4-7, 9, 11-13 and 15-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is an examiner's statement of reasons for allowance:

None of the reference discloses the first metal portion is a metal power portion and the first set of interconnection elements being a power set electrically connected to

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the metal power portion, in combination with the other claimed elements of the embodiments recited.

8. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

9. Claims 4-7, 9, 11-13 and 15-17 would be allowable if rewritten to overcome the claim objection, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

10. Applicant's arguments filed 10/08/05 have been fully considered but they are not persuasive.

Applicant argues that Arisaka does not suggest the limitation that the protrusions are inserted into the opening of the socket until the protrusion is in contact with the first metal portion.

The Examiner disagrees, since a first metal portion (14, figure 2) that is a top surface of a board (10, figure 3), and figure A as noted by the Examiner that shows a protrusion, and that protrusion is in contact with the top surface of the board (10). For that reason, it is believed that the rejections should be sustained.

***Conclusion***

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
12. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh-Tam T. Le whose telephone number is 571-272-2094. The examiner can normally be reached on 7:30-5:00.
14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TC Patel can be reached on 571-272-2098. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thanh-Tam T. Le  
Primary Examiner  
Art Unit 2839

TL.  
10/22/05.